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An analysis of third-party logistics performance and service provision

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ABSTRACT

The aim of the research described in this paper is to evaluate the relationship between the service capabilities and performance of UK and Taiwanese third-party logistics (3PL) providers. A study is presented based on a recent survey. The results identify the most important services offered by 3PLs and the most important aspects of 3PL operational performance. The results also suggest that excellence in operations is more important than wide-ranging service provision. Furthermore, the research suggests that the range of service provision offered by 3PLs does not directly influence the 3PLs' financial performance. However, 3PL providers with service capabilities that correspond to the key priorities of customers will gain superior financial performance through a better operational performance. Similarities and differences between logistics practices in the UK and Taiwan are highlighted.

1. Introduction

The pursuit of improved efficiency performance in logistics operations is a constant business challenge (Bowersox et al., 2007). One initiative that is proving productive and allows businesses to concentrate on their core competencies is the outsourcing of the logistics function to partners, known as third-party logistics (3PL) providers (Hong et al., 2004; Lieb and Bentz, 2005a). 3PL providers provide an opportunity for businesses to improve customer service, respond to competition and eliminate assets (Handfield and Nichols, 1999). Many 3PL providers have broadened their activities to provide a range of services that include warehousing, distribution, freight forwarding and manufacturing (Lieb and Randall, 1999). Extending service provision has intensified competition amongst 3PL providers, yet Lieb and Bentz (2005b) reported that very few large, US manufacturers specifically use their 3PL providers for contract manufacturing, purchasing, or financial services despite the shift of many of them into non-traditional activities.

To formulate appropriate strategies for leveraging their full business potential and for mitigating investment risks, practitioners would benefit from understanding any correlation that exists between 3PL performance and different types of service provision. Previous research studies (e.g., Arroyo et al., 2006; Sohail and Al-Abdali, 2005) have examined the factors affecting 3PL provider selection and the extent of 3PL use. However, Murphy and Poist (2000) suggested that there has been relatively little attention given to empirical studies of providers and customers. "Provider" in this context indicates the company that provides logistics services for its customers while the "customer" is the service user. Moreover, as logistics is often international, 3PL providers with different service capabilities encounter varying types of opportunity for service provision and access to customers. Empirical studies that have been undertaken, have usually concentrated on logistics management in a single region, while multi-region studies have received limited attention (Luo et al., 2001). This is particularly true of comparative logistics studies between Western and non-Western practices (Luo et al., 2001). Despite many studies

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demonstrating that logistics capabilities are positively associated with performance (Shang and Marlow, 2005), there is still insufficient evidence to conclude that outsourcing practices in a Western country such as the UK have exactly the same effect in a non-Western country such as Taiwan. As has been pointed out: "To establish more firm conclusions, studies must conduct parallel (multi-region) studies, with the same sample design and questionnaire. Such studies will be very important for understanding how context influences the outsourcing practice and shapes 3PL services" (Arroyo et al., 2006).

Existing research on the relationship between service capabilities and performance has made only a limited contribution to the correlation that exists between 3PL performance and different forms of service provision. Moreover, there has been relatively little attention given to empirical studies of both providers and customers. This research has set out to address these gaps by empirically exploring the relationships between service capabilities and performance from both a provider and customer perspective.

Key questions posed by the research are:

- Do different forms of service provision lead to discernible profitable contributions for 3PLs?
- Does operational performance have a significant effect on the financial performance of 3PLs?
- If the service capabilities that correspond to the key priorities of customers and the operational performance of 3PLs do have positive effects on financial performance, how can this be established, measured, and evaluated?

Furthermore, this research attempts to provide a comparison of logistics activities in two regions: the UK and Taiwan. The comparison between the UK and Taiwan is appropriate as the two island-based countries are similar in terms of their economies, as shown in Table 1 (Central Intelligence Agency, 2009). In addition, they have stable economic growth and are highly dependent on foreign trade. This, in turn, may significantly impact the characteristics and structure of their logistics sectors. Such a comparative analysis allows another question to be posed:

- What are the contextual implications of any identified differences between the 3PL practices in the UK and Taiwan?

This research aims to inform the decision-making processes of practitioners by providing useful policy information concerning the impact of different forms of service provision, fill a series of gaps in the literature and extend the prevailing theory by exploring the relationship between service capabilities and performance from a provider and customer perspective within a bi-regional context. Service capabilities encapsulate all aspects of service provision and represent the process of delivering products, "in a way that creates added value to customers" (van der Veeken and Rutten, 1998), such as warehousing, distribution, freight forwarding and manufacturing.

2. Literature review and research hypotheses

2.1. Resource-based view

The resource-based view (RBV) of the firm (Barney, 2001; Eisenhardt and Schoonhoven, 1996; Hart, 1995; Mahoney and Pandian, 1992; Peteraf, 1993; Priem and Butler, 2001; Wernerfelt, 1984), has "attempted to look at firms in terms of their resources rather than in terms of their products" (Wernerfelt, 1984). A firm's resources have been defined as tangible and intangible assets, such as "brand names, in-house knowledge of technology, employment of skilled personnel, trade contacts, machinery, efficient procedures, capital" (Wernerfelt, 1984). In recent years, the RBV has been employed in logistics-related research to assess the contribution made by logistics activities on firm performance (Lai, 2004; Lu and Yang, 2009; Shang, 2009; Shang and Marlow, 2005; Yang et al., 2009). A firm's resources have been defined as tangible (Lai, 2004; Lu and Yang, 2009) or intangible assets (Shang, 2009; Shang and Marlow, 2005). For example, Lai (2004) examined the variation in service performance for different types of logistics service provider. Resources, in this case, were defined as a bundle of service capabilities. The results of this study revealed that full service providers had the best firm performance. Lu and Yang (2009) examined the performance differences of different types of international distribution center operators. Resources were once again defined as a bundle of service capabilities. The results indicated that firms with a high level of customer responsiveness and innovation capabilities had the highest level of overall service performance. Shang and Marlow (2005) explored the linkage between logistics capabilities and logistics and financial performance. Resources were defined as a bundle of behaviour-based capabilities including information systems'-related capabilities and benchmarking and flexibility expertise. The results

Table 1
The UK and Taiwanese economy in 2007.

	UK	Taiwan
GDP: per capita (purchasing power parity, PPP) ($)	36,500	31,100
GDP: composition by sector (%)		
Agriculture	1.3	1.7
Industry	24.2	25.1
Services	74.5	73.2